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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.

EXAMINER	
ART UNIT	PAPER NUMBER
	17

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
08/963,368	Nolan
Examiner	**Group Art Unit**
F. Pierre VanderVegt	1644

X Responsive to communication(s) filed on *Jan 2, 2001*.

X This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *three* month(s), ~~or thirty days, whichever is longer~~, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

X Claim(s) *16-29* is/~~are~~ pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

X Claim(s) *16-29* is/~~are~~ rejected.

Claim(s) _____ is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- *SEE OFFICE ACTION ON THE FOLLOWING PAGES* ---

DETAILED ACTION

This application is a divisional of application S.N. 08/789,333, which is a divisional of application S.N. 08/589,108, which is a divisional of application S.N. 08/589,911.

New claim 29 has been added.

Claims 16-29 are currently pending in this application.

1. In view of the amendment filed January 2, 2001, only the following rejections are maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 16-23 and 28 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Jellis et al (U2) in view of U.S. Patent No. 5,723,287 to Russell et al (A2), Druker et al (V2) and Kaufman (U), all of record.

It was stated previously: "The Jellis et al reference teaches a phage display library expressing 1.5×10^8 unique random 20 amino acid peptides fused to a coat protein. Jellis et al does not teach retroviral libraries. The '287 patent teaches that "[r]etrovirus display packages could be used for applications analogous to those which have been developed for filamentous bacteriophage" (column 16, lines 62-64 in particular). Kaufman teaches that retroviral vectors can transduce genes into a variety of cell types and into a variety of species and can introduce nearly 100% of the host cells. Kaufman further teaches that the DNA intermediate of retroviruses can integrate into the host chromosome, inserting a gene of interest into a host genome (page 494 in particular). Druker et al teaches the use of a retroviral expression library comprising randomized point mutations (page 6860, first paragraph of "DISCUSSION" in particular) in a cDNA coding for polyoma middle T antigen (MTAg). The Druker et al library is biased for "studying the transforming ability of MTAg" (Abstract in particular). It would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made to create a

peptide library in retroviral vectors. One would have been motivated with a reasonable expectation of success by the desire to create only a single library of vector-borne peptides in order to use the same library both for the screening process and for the stable transformation of mammalian cells for expression of the desired peptides and by the teaching of the '287 patent that retroviral display packages could be used for applications analogous to those of a phage display library."

Applicant's arguments filed January 2, 2001 have been fully considered but they are not persuasive.

Applicant argues that the combination of references is taught against by the Druker et al reference because Druker et al concedes that the method taught by the reference is tedious. Applicant argues therefore that the artisan would be discouraged from using the Druker et al method in combination with other teachings. The Examiner respectfully disagrees with Applicant's assertion. While Druker et al may teach that the method is tedious, Druker et al immediately follows the statement with praises for the method's effectiveness, clearly stating that the method provided a large library of mutants where virtually all of the transformants express desired product. The level of skill of the ordinary artisan in molecular biology is recognized to be quite high. While it is recognized that the method of Druker et al requires a great deal of time and effort, it is respectfully submitted that the artisan would not be required to exert inventive skill or perform an undue amount of experimentation to combine the teachings of Druker et al with the other references and the indication of positive results by Druker et al can hardly be considered to be a discouraging statement. Applicant further contends that the '287 patent cannot be considered motivational because the '287 patent does not teach the instantly disclosed screening method. This argument is not persuasive because the screening process is an intended use of the claimed product, not a limitation upon the product. The claimed library could be used by the artisan for any purpose seen to be appropriate for such a library by the practitioner, not just the use envisioned by the Applicant.

3. Claims 16-28 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Jellis et al (U2) in view of U.S. Patent No. 5,723,287 to Russell et al (A2), Druker et al (V2), Kaufman (U), and Nilsson et al (V), all of record.

It was stated previously: "The Jellis et al reference, the '287 patent, Kaufman and Druker et al have been discussed supra. The combined references do not teach the expression of the variety of claimed fusion proteins [claims 24-26]. Nilsson et al teaches that fusion proteins are constructed for a variety of purposes, such as increasing the stability of the product [claim 26], both during purification or in vivo use of the product (pages 570-571 in particular). Nilsson et al further teaches that fusion of a desired protein product with a 'handle' that has unique binding characteristics facilitates purification (rescue) of the desired protein so that the protein which confers a particular phenotype of interest on the host cell can be retrieved for further study [claim 25]. Nilsson et al also teaches that a further reason to construct a fusion protein would be for targeting of protein drugs (page 572 in particular)[claim 24]. It would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Nilsson et al with those of the other references. One would have been motivated to combine these teachings with a reasonable expectation of success based on the teachings of Nilsson et al that fusion proteins can be constructed for a variety of reasons ranging from protein recovery to therapeutic uses. Claim 27 is included because dimerization of a recombinant peptide is well known in the art to be effective for increasing the immunogenicity of antigenically weak peptides which are of interest as potential immunospecific targets to treat a particular condition.

Applicant contends that the Nilsson reference cannot be combined with the other references because Nilsson does not teach retroviruses. In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, one skilled in the art would readily be able to combine teachings of fusion peptides and why they are useful, such as those of Nilsson, with teachings regarding retroviral vectors without undue experimentation and inventive exertion.

4. **The following new ground of rejection was necessitated by Applicant's amendment.**

5. Claim 29 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled

in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 29 is drawn to a library of cells intracellularly expressing randomized polypeptides. Applicant contends that the new claim is supported by the instant specification because the specification discloses that an intent of the invention is to "provide compositions for the delivery of agents to subcellular locations." The Examiner respectfully disagrees. Applicant cites particular support fore the claim at page 2 lines 13-20, however, this is not persuasive because the specification speaks only of the shortcoming of conventional assays to be able to direct minute amounts of an active substance to a subcellular organelle, requiring exposure of the cell to massive amounts of the substance which may mask the desired effect. The claim is drawn to a library, not a method of delivering peptides to organelles. There is no nexus made between delivery of specific peptides to subcellular organelles and the random intracellular expression of a library of peptides. Accordingly, adequate support for the invention of claim 29 was not found in the instant specification and the claim constitutes new matter.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Papers related to this application may be submitted to Technology Center 1600, Group 1640 by facsimile transmission. Papers should be faxed to Group 1640 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The fax phone number for official documents to be entered into the record for Art Unit 1644 is (703)305-3014.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to F. Pierre VanderVegt, whose telephone number is (703)305-6997. The Examiner can normally be reached Tuesday through Friday and odd-numbered Mondays (on year 2001 365-day calender) from 6:30 am to 4:00 pm ET. A message may be left on the Examiner's voice mail service. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Ms. Christina Chan can be reached at (703)308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist, whose telephone number is (703)308-0196.

F. Pierre VanderVegt, Ph.D.
Patent Examiner
Technology Center 1600
March 26, 2001

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SUPERVISORY PATENT EXAMINER
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